Introduction to Programming

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Class Overview

Built from Harvard's CS50p and CS50 AP courses.

An introduction to computer science using a Programming Language called Python. Learn how to read and write code as well as how to test and "debug" it. Designed for students with or without prior programming experience who'd like to become a "programmer". Learn about functions, parameters, and return values (oh my!); Variables and data types; conditionals and Boolean expressions; and loops. Learn how to handle exceptions, find and fix bugs, use third-party libraries; validate and extract data with regular expressions; model real-world entities with classes, objects, attributes, and read and write files. Hands-on opportunities for lots of practice. Exercises inspired by real-world programming problems.

Unit 0: Setup

- *0.1 - Welcome to Computer Science*
- *0.2 - Github and Obsidian*

Unit 1: Hardware

- *1.1 - Binary*
- *1.2 - Components of a Computer*
- *1.3 - How do Computers Work?*
- *1.4 - Operating Systems*
- *1.5 - Algorithms*

Unit 2: Functions and Variables

- *2.1 - Hello World!*
- *2.2 - Variables, Input and GitHub*
- *2.3 - Data Types*
- *2.4 - Functions and Scope*

Unit 3: Conditionals and Exceptions

- *3.1 - Boolean Expressions and Operators*

Unit 4: Loops

Unit 5: Algorithms and File I/O

Unit 6: Classes and Objects

Unit 7: Libraries

Grading
Grading is broken down into formative and summative assessments. Formative assessments are activities. Summative assessments include projects and tests.

Inclusion
It is my goal as an educator to embrace and encourage my students' differences in their immutable and cultural characteristics that make them unique. Above all else, students will be seen as individuals who bring unique and valuable perspectives to the classroom. I expect my students to respect this philosophy and help foster an environment where everyone belongs.

Phone Use
Cell phones are not allowed in the classroom. If a student brings in a cell phone, they must put it in the phone holder upon entry to the room. Phones brought in and not placed in the phone holder will be sent to the office.

Absence/Tardiness
If a student expects an upcoming absence, they must talk with me prior to that absence to discuss solutions for making up any missed work. In most cases, students will be working on projects and will need to communicate with their group members about project tasks they may need to make up.

If a student is not in the classroom when the bell rings, they will be marked as tardy in the gradebook. A written referral will be issued to the student on their fourth tardy of the trimester.

Vandalism/Theft
Because students use our valuable and sensitive technical equipment daily, it is crucial that we all exhibit respectful and proper use of it. Vandalism and theft involving school equipment will be handled in accordance with the Student Handbook:

*"The principal may **suspend** or recommend **expulsion** of a student who violates one or more of the following specific standards of conduct while on school grounds, during a school sponsored activity, or during a school-related activity.*

1. *Causes or attempts to cause damage to school property, stealing or attempts to steal school property of value.*
2. *Causes or attempts to cause damage to private property, stealing or attempts to steal private property."*

Comments/Concerns
I would love to chat with you through email for any questions regarding any of the policies listed above or for any other concerns relating to this class. I try my best to make myself as accessible as possible to best serve my students.